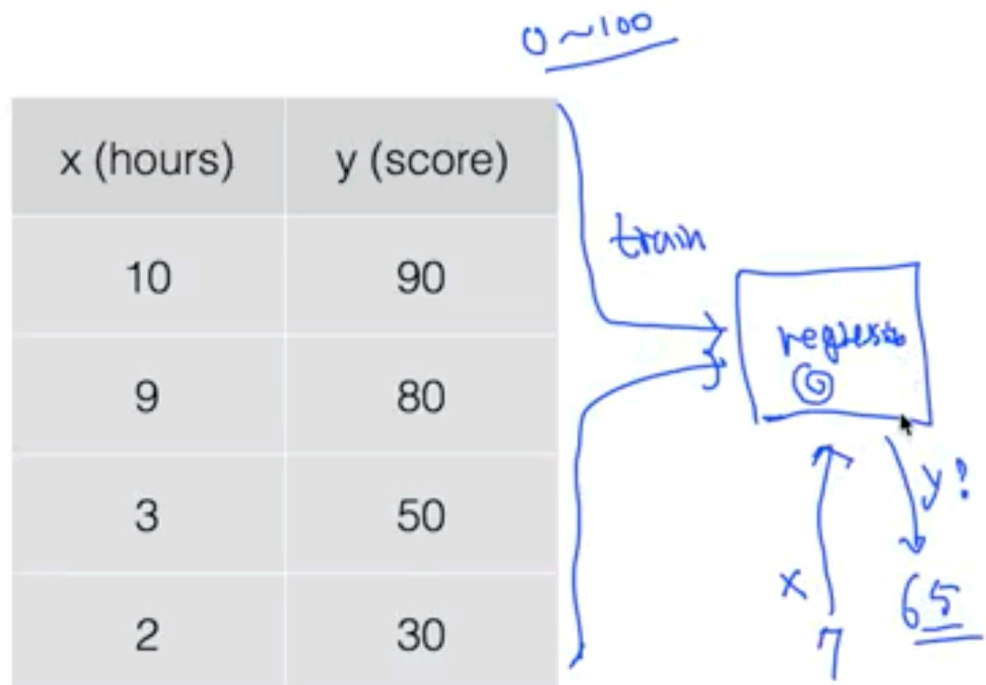
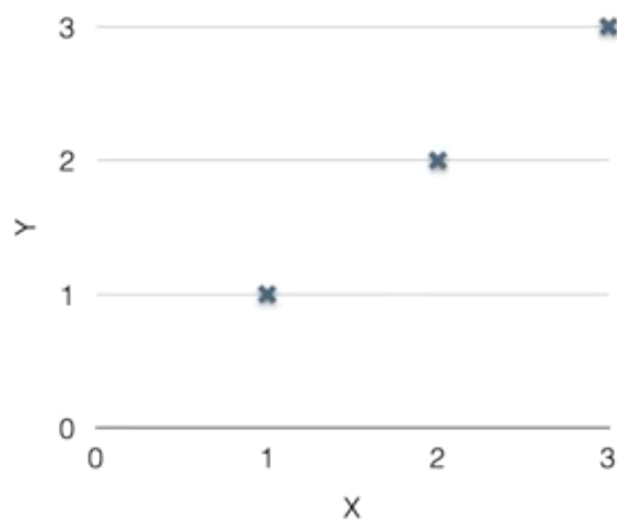


선형회귀 와 손실함수 by Peach

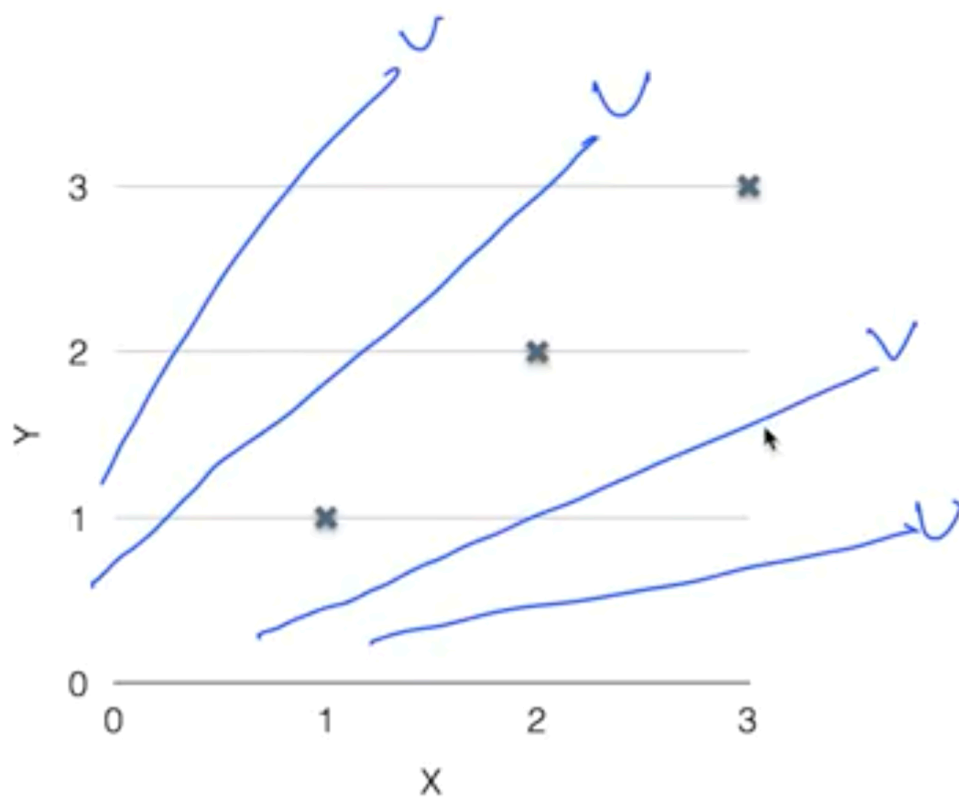
Predicting exam score: regression



(Linear) Hypothesis

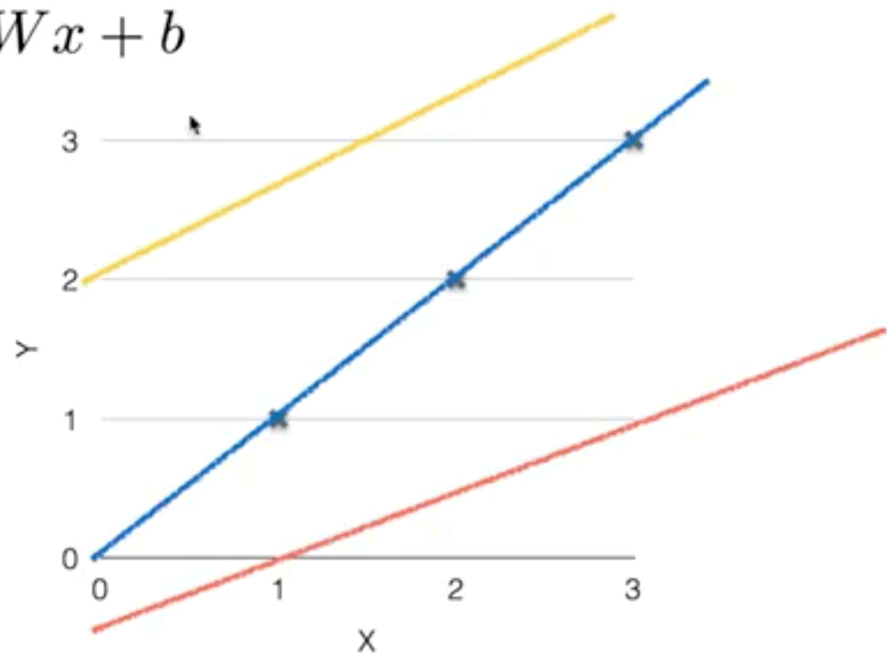


(Linear) Hypothesis



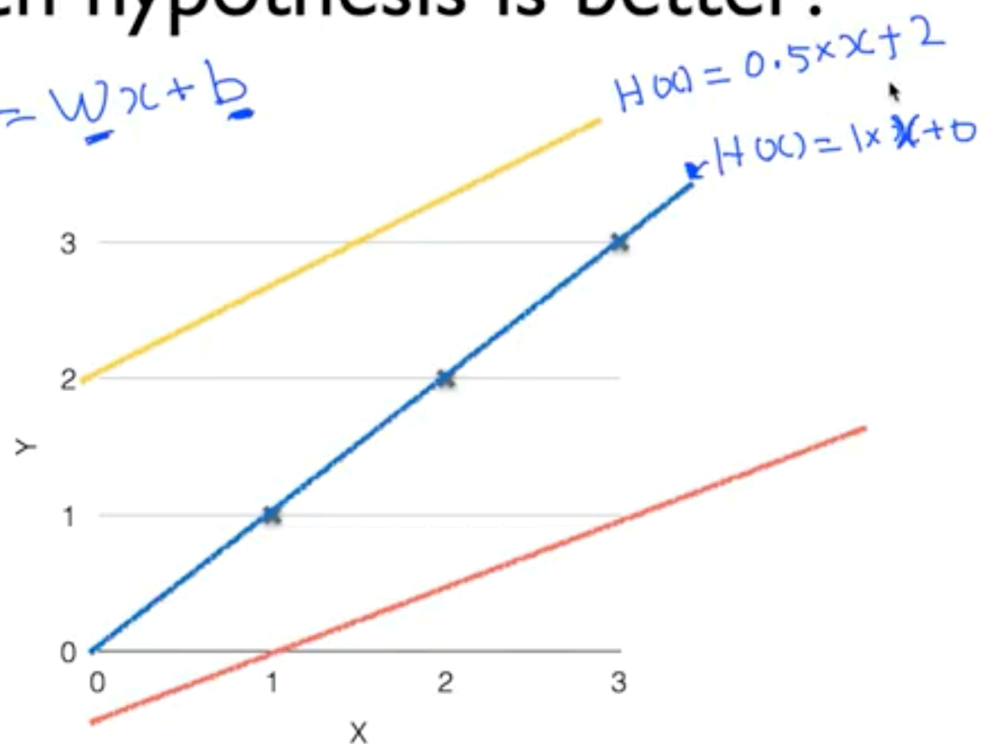
(Linear) Hypothesis

$$\underline{H(x)} = Wx + b$$

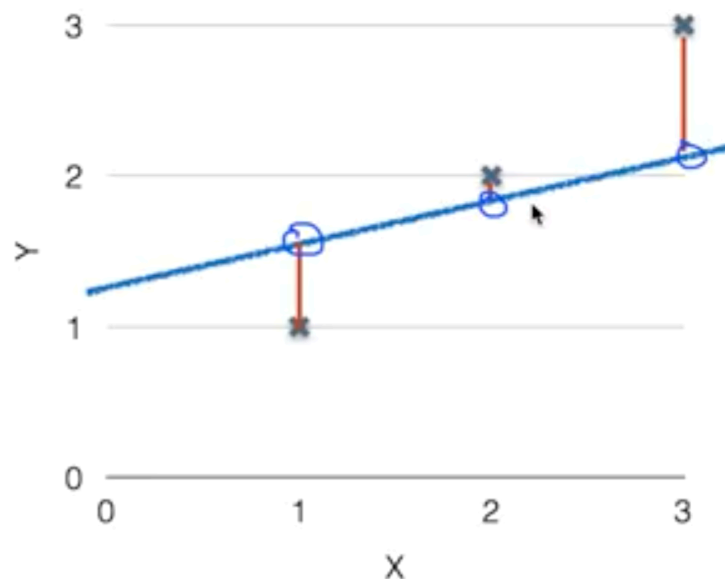


Which hypothesis is better?

$$H(x) = \underline{W}x + \underline{b}$$



Which hypothesis is better?

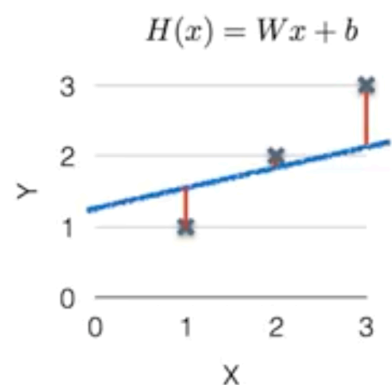


Cost function

Loss

- How fit the line to our (training) data

$$H(x) - y$$

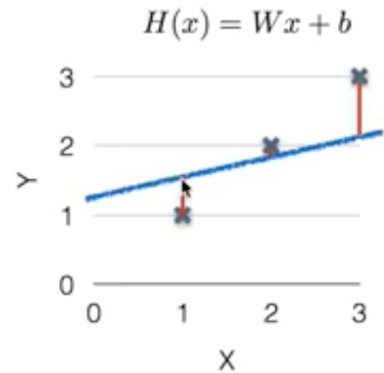


Cost function

- How fit the line to our (training) data

$$\frac{(H(x^{(1)}) - y^{(1)})^2 + (H(x^{(2)}) - y^{(2)})^2 + (H(x^{(3)}) - y^{(3)})^2}{3}$$

$$cost = \frac{1}{m} \sum_{i=1}^m (H(x^{(i)}) - y^{(i)})^2$$



Cost function

$$cost = \frac{1}{m} \sum_{i=1}^m (H(x^{(i)}) - y^{(i)})^2$$

$H(x) = Wx + b$

$$cost(\underline{W}, \underline{b}) = \frac{1}{m} \sum_{i=1}^m (H(x^{(i)}) - y^{(i)})^2$$

Goal: Minimize cost

$$\underset{W, b}{\text{minimize}} \, \underline{\text{cost}}(W, b)$$
